

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Bartlett et al.)	
)	
Serial No.: not yet assigned)	Group Art Unit: 3671
)	
Filed: 10/10/2003)	Examiner: T. Beach
)	
For: FLOW COMPLETION SYSTEM)	

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Response to Office Action in Parent Application

This communication accompanies an application which is being filed as a continuation of U.S. Patent Application No. 10/391,846, which was filed on March 18, 2003 (hereinafter the "Parent Application"), and is responsive to the Office Action dated July 16, 2003 in the Parent Application (hereinafter the "Office Action").

In the Parent Application, claims 1-2, 11, 16, 17, 22-30, 33, 38 and 39 (which have been renumbered as claims 1-17 in the accompanying continuation application) were rejected under 35 U.S.C. 102(b) as being anticipated by Hopper et al. (U.S. Patent No. 5,544,707). With respect to independent claims 1, 27 and 38, the Examiner asserts that Hopper discloses a flow completion system comprising a tree (34), a tubing hanger (21/54/68) which includes a production bore (53) and a production passageway (63), first and second closure members (66, 69) which are attached to the body of the tubing hanger, and first

and second annular seals (appearing in Figure 8 at the upper ends of components 68 and 54). Of significance to the instant rejection, the Examiner asserts that “the tubing hanger is considered to be made up of both hangers 21 and 54 and 68, as disclosed and noted in applicant’s arguments”, and that the component 68 is “a *stopper* which is in support and coaxial connection to that of the tubing hanger” (Office Action, paragraph 6).

Applicants respectfully disagree that Hopper’s tubing hanger can be considered to comprise the components 21, 54 and 68. First, contrary to the Examiner’s assertion, applicants have never disclosed, noted or otherwise admitted that Hopper’s tubing hanger can be considered to be made up of the casing hanger 21, the tubing hanger 54 and the stopper 68. According to the Examiner, this statement was made in applicants’ March 18, 2003 Response to Final Office Action in Parent Application (hereinafter the “Response”). However, applicants made no such admission in the Response. To the contrary, applicants argued that the Examiner’s assertion that a tubing hanger can be interpreted to be both a tubing hanger and a tree cap is *contrary* to the ordinary meaning of the term “tubing hanger” (Response, page 10).

Second, the Hopper patent itself clearly establishes that the tubing hanger comprises only the component 54 and that the casing hanger 21 and the stopper 68 are structurally and functionally independent of the tubing hanger. Consistent with the definition of “tubing hanger” in the *Dictionary of Petroleum Exploration, Drilling & Production*, which applicants cited in the Response, Hopper teaches that the “tubing hanger 54” is the component which is used to suspend the

production tubing string 53 from the spool tree 34 (see column 6, lines 38-43). Nowhere does Hopper disclose or suggest that the casing hanger 21 and the stopper 68 are also used for this function. Indeed, Hopper consistently refers to the “tubing hanger” solely by the reference number 54 (see, e.g., column 6, lines 39, 43, 50, 55, 60, 61 and 65), and never by a combination of components which includes the casing hanger 21, the stopper 68 or, for that matter, any other component. Moreover, the tubing hanger 54 is illustrated in its entirety in Figure 5, and neither of the components 21 and 68 are depicted in this figure.

According to Hopper, the production casing hanger 21 is used to suspend the production casing string from the wellhead housing 20 (see column 5, lines 3-6). In contrast to the tubing hanger 54, the production casing hanger 21 is landed in the wellhead housing 20, not the spool tree 34. Also, the production casing hanger 21 is installed in the wellhead housing 20 prior to the installation of the tubing hanger 54 in the spool tree 34 (compare Figure 1 with Figure 6). In addition, the production casing hanger 21 is connected to the production *casing* string (see column 5, lines 5-6), not the production tubing string 53. Thus, no doubt can exist that the production casing hanger 21 and the tubing hanger 54 are structurally and functionally independent and separate components. Therefore, the production casing hanger 21 cannot be considered to be part of the tubing hanger 54.

The stopper 68 likewise cannot be considered to be part of the tubing hanger 54. Hopper identifies the stopper 68 as an internal isolation stopper which is installed in the top of the spool tree 34 *above* the tubing hanger 54 (see

column 4, lines 1-2 and column 7, lines 1-2). In conjunction with the plug 69, the stopper functions to provide a barrier between the well bore and the environment (see column 7, lines 3-6). As will be discussed below, this barrier is separate and in addition to the barrier which is provided by the tubing hanger 54 and its plug 66.

Although Figure 8 of Hopper appears to show the stopper 68 and the tubing hanger 54 as being axially adjacent, the stopper 68 is not, as the Examiner asserts, "in support and coaxial connection to that of the tubing hanger" (Office Action, paragraph 6). To the contrary, Hopper specifically *requires* that the stopper 68 and the tubing hanger 54 be mechanically separate. As discussed in Hopper, a subsea completion system is generally required to have two barriers in series in order to contain pressure within the well (column 3, lines 51-53). Hopper satisfies this requirement by providing a first plug in the tubing hanger and a second plug in the spool tree above the tubing hanger (column 3, lines 60-65). According to Hopper, this second plug "could be a stopper set in the spool tree above the tubing hanger" (column 4, lines 1-2). This *stopper* to which Hopper refers is clearly the stopper 68. Hopper goes on to state:

A particular advantage of this double plug arrangement is that, as is necessary to satisfy authorities in some jurisdictions, the two independent barriers are provided in *mechanically separate parts*, namely the tubing hanger and its plug and the second plug in the spool tree (emphasis added).

Thus, contrary to the Examiner's assertion, Hopper clearly intends for the stopper 68 to be *mechanically separate* from the tubing hanger 54.

That the tubing hanger 54 and the stopper 68 are separate and independent components is also supported by the fact that these components are installed in separate trips and using different tools. Figures 1 to 8 of Hopper show successive steps in the development and completion of his wellhead (column 4, lines 53-57). Figure 6 shows the tubing hanger 54 being installed in the spool tree 34 using a tool 55 (column 6, lines 38-43), and Figure 7 shows the stopper 68 being installed in the spool tree 34 above the tubing hanger 54 using a drill pipe 67 (column 6, line 66 through column 7, line 3). Thus, in contrast to applicants' invention, Hopper requires two trips and two sets of running tools to install the required first and second pressure barriers within the spool tree. Clearly this would not be the case if the stopper 68 were indeed part of the tubing hanger 54*.

Furthermore, Hopper does not teach or suggest that the stopper 68 is in support of or coaxially connected to the tubing hanger 54, as the Examiner asserts. Hopper discloses that the production tubing string 53 is supported solely by the tubing hanger 54 (column 6, lines 38-43). Indeed, this must be the case since the tubing hanger 54 is installed prior to the installation of the stopper

* Moreover, since the stopper 68 must be installed in a separate trip, Hopper's arrangement creates exactly the problems which applicants' invention was designed to eliminate. As stated on page 5, lines 5-8 of the instant continuation application, providing two pressure barriers on the tubing hanger eliminates the need to install a separate pressure barrier, such as the stopper 68, in the tree above the tubing hanger. Eliminating this separate pressure barrier not only saves valuable rig time by obviating the need for a separate running trip, but also reduces the possibility that this extra running trip will dislodge debris in the riser that could foul the sealing surfaces in the tree against which the pressure barrier must seal (see page 3, lines 13-22 and page 4, lines 1-5 of the instant continuation application).

68 (see Figure 6). Also, nowhere does Hopper suggest that the stopper 68 will share in supporting the production tubing string 53 once the stopper 68 is installed above the tubing hanger 54. Moreover, if the stopper 68 were connected to the tubing hanger 54, then no need would exist to lock the stopper 68 to the spool tree as taught by Hopper (see column 4, lines 1-7). Therefore, the stopper 68 is clearly not in support of or connected to the tubing hanger 54.

Thus, Hopper's tubing hanger cannot be considered to be made up of the tubing hanger 54, the production casing hanger 21 and the stopper 68. The tubing hanger can only be considered to be what Hopper clearly and unambiguously describes it to be, that is, the tubing hanger 54. Therefore, in assessing the patentability of applicants' claims vis-à-vis Hopper, any reference to the tubing hanger should not be interpreted to include such separate and independent components as the production casing hanger 21 and the stopper 68.

Moreover, the Examiner's combination of such structurally and functionally separate components to satisfy a limitation directed to a single component is contrary to the law of the Federal Circuit. Anticipation requires the presence in a single prior art reference of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984). In addition, the claims should not be treated as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims. *Id.* at 486. Furthermore, anticipation cannot be predicated on mere conjecture as to the

characteristics of a prior art reference. *Ex parte Standish*, 10 U.S.P.Q. 1455, 1457 (Bd. Of Pat. App. and Int. 1989).

The *Lindemann* case is similar in many respects to the instant application. This case involves a patent for a scrap metal shearing machine comprising a feed channel having a sidewall divided into two portions of different lengths which may be moved independently by separate hydraulic rams. *Lindemann*, 221 U.S.P.Q. at 483. The District Court held that claims 1, 2 and 4 were anticipated by a prior art patent for a shearing machine comprising a feed channel having a single movable sidewall and a pair of movable "gags" located at the end of the sidewall. In reversing the District Court's judgment of invalidity, the Federal Circuit concluded that the trial court erred by, among other things, finding that the gags corresponded to the limitation "said sidewall being divided into two portions of different lengths." *Id.*, at 485. According to the Federal Circuit, "[t]he gags are beyond the end of the wall and constitute no part of the feed channel sidewall as claimed." *Id.*

Similarly, in applying Hopper to the claims at issue, the Examiner should not consider Hopper's casing hanger 21 and stopper 68 to be part of the tubing hanger 54. In the absence of specific proof that the tubing hanger 54 can be considered to include such components, this combination is mere conjecture on the Examiner's part as to the characteristics of the tubing hanger 54.

Based on a proper reading of Hopper, therefore, claims 1-2, 11, 16, 17, 22-30, 33, 38 and 39 (which have been renumbered as claims 1-17 in the

accompanying continuation application) cannot be found to be anticipated by this reference.

With respect to independent claim 1, Hopper does not disclose a flow completion system which comprises first and second closure members positioned in the production bore *of the tubing hanger* (claim 1, lines 10-11 and 17-18). Instead, Hopper discloses mounting a first plug 66 in the production bore of the tubing hanger 54 and a second plug 69 in a *separate* stopper 68 which is located *above* the tubing hanger. In addition, Hopper does not disclose a flow completion system which comprises first and second annular seals mounted between the tubing hanger and the tree above the production passageway (claim 1, lines 12-13 and 19-20). Rather, Hopper discloses mounting a first annular seal 65 between the tubing hanger 54 and the tubing spool 34 above the production passageway 61 and a second annular seal (unnumbered) between the stopper 68 and the tubing spool 34.

Therefore, Hopper does not anticipate claim 1. Furthermore, since claims 2, 11, 16, 17 and 22-26 (which have been renumbered as claims 2-10 in the accompanying continuation application) depend from claim 1, these claims cannot be anticipated by Hopper.

With respect to independent claim 27 (which has been renumbered as claim 11 in the accompanying continuation application), Hopper does not disclose a flow completion system which comprises first and second pressure-containing barriers secured to the body of the tubing hanger above the production passageway (claim 27, lines 12-15). Rather, Hopper discloses only a

single pressure containing barrier secured to the body of the tubing hanger above the production passageway, that is, the plug 66 which is mounted in the bore of the tubing hanger 54 above the production passageway 61 and the annular seal 65 which is mounted between the tubing hanger 54 and the tubing spool 34.

Therefore, Hopper does not anticipate claim 27 (claim 11 in the accompanying continuation application). Furthermore, since claims 28-30 and 33 (which have been renumbered as claims 12-15 in the accompanying continuation application) depend from claim 27, these claims cannot be anticipated by Hopper.

With respect to independent claim 38 (which has been renumbered as claim 16 in the accompanying continuation application), Hopper does not disclose a flow completion system which comprises a plug body removably securable in the production bore of the tubing hanger and at least first and second annular seals positioned between the plug body and the production bore above the production passageway (claim 38, lines 10-13). Although Hopper discloses mounting a plug body 66 in the production bore of his tubing hanger 54, Hopper does not suggest that at least first and second annular seals are mounted between this plug body 66 and the production bore.

Therefore, Hopper does not anticipate claim 38 (claim 16 in the accompanying continuation application). Furthermore, since claim 39 (which has been renumbered claim 17 in the accompanying continuation application) depends from claim 38, this claim cannot be anticipated by Hopper.

For the foregoing reasons, claims 1-17 are submitted as allowable.

Favorable action is solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'H. C. Query, Jr.', with a long horizontal flourish extending to the right.

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